

sampling frame is available. Hunters can help by prompting license vendors to ask and record information about the previous year's hunting activity. The questions asked by vendors are not designed to estimate harvest; they are too general to be used for specific harvest data. Instead, the questions asked of hunters are used only to develop the harvest survey that is conducted after the season.

Bands that are recovered and reported by hunters are the source of information about survival and harvest rates, migration, and harvest derivation and distribution. A toll-free telephone number (1-800-327-2263) now provides an easy method for hunters to report bands. Following the phone report (hunters do not have to send in the band) hunters will be sent a certificate with specific information about the harvested bird's banding location, date, and age when banded.

### **Motion-wing Decoys (MWD):**

Primary concerns associated with the use of motion-wing decoys (MWD) include potential increases in harvest, infringement on traditional methods, and issues of fair chase. Although several studies have shown MWD use results in higher success rates, it remains uncertain how MWD use affects overall harvest rates. Even if harvest rates are greater, the impact of hunting mortality must be kept in perspective relative to influences of habitat conditions and weather. During periods of high populations and favorable habitat conditions, the impact of harvest in general and hunting methods specifically may be relatively unimportant.

From a technical viewpoint, even if harvest effects are significant and lasting, regulation of hunting methods may not be necessary. As long as overall harvest rates are incorporated into hunting season considerations, the way ducks are taken is not necessarily an issue - from a biological perspective. It would be necessary, however, to determine whether hunters prefer more liberal opportunity (e.g. longer season) versus greater hunting success (e.g. using motion-wing decoys) if harvest impacts are significant and regulation changes are needed.

Some objections are rooted in issues of hunting tradition, learned skills (e.g. calling, blinds, choosing hunting locations, etc.), and public perception of hunters and hunting. These are valid concerns, although difficult to measure and incorporate into decisions. Undoubtedly, many hunting and fishing regulations are based on these types of concerns, which usually also have biological implications. Yet the ethical boundaries are poorly defined. A strong argument could be made in favor of hunting experience, tradition, and learned skills instead of another hunting gadget. An equally strong case could be made for enhanced hunting success as an attraction to novice and inexperienced hunters and a way to prompt or maintain interest in hunting and support for conservation.

Efforts to evaluate the use and attitudes regarding MWD were initiated in 2000 and continued in 2001. Field observations, reports from hunters on Department areas, responses to post-season surveys, and a waterfowl hunter attitude survey have provided insights into effectiveness and preferences for future use. Based on our initial work we found:

- 1) The use of MWDs affected duck behavior apparently leading to greater hunter opportunity and hunting success. When using a MWD hunters shot and retrieved 1.28 more total ducks per hunting party (2-3 hunters) and 0.82 more male mallards than when not using a MWD.

- 2) Missouri waterfowl hunters hunting on Department areas were more successful in 2000 when using MWDs than hunters who did not use MWDs. The overall difference in success rate between users and non-users was 0.78 ducks per hunter trip; however, about half of this difference was attributed to factors other than MWDs, such as greater hunting skills. The remaining increase in hunting success, between 0.32 and 0.45 ducks/ hunter trip (13%-19% increase in success rate), was attributed to MWDs.
- 3) The majority (83%, n=450) of avid Missouri waterfowl hunters surveyed (participants in zoning workshops) hunted over a MWD in 2000. Three-fourths reported MWDs to be more effective than regular decoys. Most hunters favored continuing use of MWDs as long as seasons are not affected; however, 20% opposed further use because of concerns about “fair chase” or loss of traditional hunting methods.
- 4) According to the waterfowl hunter attitude survey conducted after the 2001 season, a much greater proportion of avid hunters (67%) owned MWDs compared to novice hunters (20%). The majority of avid hunters (72% vs. 57% of novice hunters) indicated that MWDs were somewhat more or much more effective than hunting with regular decoys only. Avid duck hunters (63% vs. 47% of novice hunters) were in favor of the continued use of MWDs as long as season lengths or bag limits are not reduced. Less than 20% of duck hunters expressed concern about issues of fair chase or the impacts of MWDs on traditional hunting methods. Of those hunters who hunt on Missouri Department of Conservation wetland areas, 64% favored no special regulations on the areas, 19% felt they should be prohibited on Department areas, and the remainder believed they should be allowed only on certain Department areas, or in certain pools/units within areas.
- 5) In 2001, we noted that more successful hunters were the first to use MWDs. In 2001, we conducted additional analysis of Department wetland area data from the last 4 years and controlled for past combinations of hunting activity and use of MWDs. We looked at the differences in success between MWD users and nonusers who hunted on Department wetland areas for the first time in 2001. This group accounted for 24% of the individuals, 9% of the trips, and 7% of the ducks harvested with MWD users averaging 1.62 ducks per day and nonusers, 0.99 ducks per day. This result is noteworthy because inactive hunters represent the majority of waterfowl hunters. Small increases in success can represent substantial divergence from historical trends in harvest.
- 6) Hunters on Department areas who began using MWD increased their participation by about 1 hunting trip more than before using MWD.

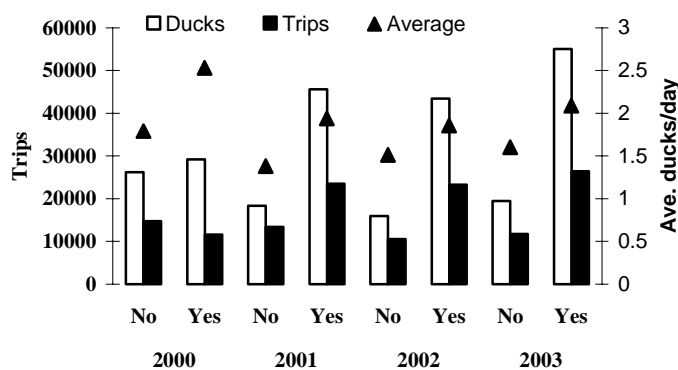
*2004 Motion-wing decoy update:* The use of Motion-wing decoys in Missouri and throughout the country continues to be a source of controversy. Pennsylvania, Oregon, and Washington have prohibited their use and California and Minnesota have banned their use during a portion of the season. At the 2004 summer meeting, the Mississippi Flyway Council recommended that the USFWS summarize the results of existing studies on MWD.

*MWD use and effectiveness:* We have asked questions about MWD use the past 5 years in the Snow Goose Post Season Harvest Survey. Their use rose dramatically over a three year period and has continued to increase, but at a much slower rate: 5,746 hunters (17%) in 1999, 14,570 hunters (43%) in 2000, 21,927 hunters (57%) in 2001, 21,743 hunters (58%) in 2002, and 21,175 hunters (67%) in 2003.

On Department wetland areas in 2000, MWD users accounted for 44% of the trips and 53% of the ducks harvested (Figure 14). By 2002, the percent of trips taken by MWD users jumped to 69% and the number of ducks harvested by MWD users increased to 73%. In 2004, the pattern of use and success remained almost identical with MWD users accounting

for 69% of the trips and 74% of the harvest. MWD users averaged 2.09 ducks per trip compared to 1.6 ducks per trip for those who did not hunt with them in 2004. In each of the four years of this evaluation, the difference in success between MWD users and those who did not use them remained very similar.

**Figure 14. Trips & ducks harvested on Department areas with & without MWD's, 2000-2003.**



An increase in harvest can occur because of an increase in success rate and/or participation. The degree to which MWD added to the motivation for hunting is unknown. Regardless of differences in hunting activity and success among years of variable habitat, weather, and populations, the apparent influence of MWD was consistent and “significant.” Additionally, a consistent increase in hunter success was measured among all Department areas in Missouri. Our conclusion is that MWD have a significant influence on hunting success and that the effect is sustained throughout the season and in subsequent years.

The implication of increased hunting activity and success with the use of MWD involves the potential effect of increased duck harvest rates. Increased harvest rates could lead to more restrictive seasons. Adaptive Harvest Management provides a framework for recommending duck hunting regulations based on predicted vs. actual harvest rates and duck populations. If harvest rates increase with use of MWD, the intended effect of restrictive season lengths and bag limits may be partially lost or poorly predicted. This should be considered as MWD use expands.

